

### HYDROPHONE MEASURES DEPTHS OF THE OCEAN

First Cousin of Radiophone, Perfected to Detect Enemy Submarines, Put to Practical Peace Use by Navy.

sound oscillator or transmitter in-tailed aboard a ship.

The hydrophone detects sound raves, whose average velocity in sea-vater of varying temperatures is ap-moximately 4,400 feet per second, with the same facility as the ordinary adio receiving apparatus detects the ther or radio waves in the atmos-there having a velocity of 186,000 niles per second.

It can also be manipulated so

phere having a velocity of 186,000 miles per second.

It can also be manipulated so as to indicate the actual direction whence the sound waves come, and it is possible therefore that eventually it might even eliminate the use of the fog siren on sea-going ships as an aid in preventing collisions between ships at sea during fogs.

Every navigator knows the unre
Hitherto the hand lead and sounding machine constituted the only apparatus by which the depth of water involves slow, tedious work, a large part of the ocean bottoms have never been accurately toms have never been accurately toms have never been accurately to the signals from Annapolis until th

RADIO EQUIPMENT GIFT

Cross Chapter, Makes Donation

BETTER CITIZENSHIP

DAY PLAN FOR JULY 4

Americanization School, D. A. R.

and Naturalization Bureau In-

dorse Woman Club's Idea.

Hitherto the hand lead and sound-

Miss Alice Clapp, Through Red Popularity of Course Causes New Unit to Be Planned at

Unit to Be Planned at

Eastern High.

During the school year just ended there were 494 boys and eleven girls in the Washington public schools who received practical, vocational training in the art of printing. This course was given in the Central High School, the McKinley Manual Training High School and the Dunbar High School—two white and one colored high schools—and in some of the junior high and grade schools. A print high and grade schools. A print in the different schools where the situation is such that there are pupils in the different schools where the seconds where the sec to St. Elizabeth's Hospital. Up-to-date radio equipment has been given by Miss Alice Clapp, through the District chapter of the American Red Cross, to St. Elizabeth's Hospital, for the use of the bedridden veterans at that institution. The Red Cross workers at the hospital report that the men are taking great interest in "listening in." Miss Clapp has also given the screense of the bedridden veteramensitution. The Red Cross workers the hospital report that the men are taking great interest in "listening in."

Miss Clapp has also given the screening for the District chapter Red Cross rest house on P street northwest.

A first aid class is being formed at chapter headquarters and eight more students can be accommodated in this class. The sessions are held Tuesday and Friday, at 7 p.m. Application for entrance should be made to the District headquarters.

An appeal has been made to local when the printing course, Dr. Frank W. Ballou, superintendent of the District chapter's rict chapter's was and the strict schools, explained, because "we believe that in this city that is one of the schools can prepare it because there is no manufative is very little results." high and grade schools. A print situation is such that there are pupils who desire to pursue this line of entrance should be made to the District headquarters.

An appeal has been made to local housewives to do some canning for the Red Cross during their season's canning and give a half dozen jars of jam or jelly to make up the District chapter's yearly quota of four to five thousand two-ounce containers of those delicacles to cover the work among soldiers, sailors and marines in the hospitals in and around Washington. Mrs. Mary Hambey of Park View, asks for supplies of fresh blackberries and apples for the many cans she is "putting up" for District chapter use. Any contributions of fresh fruit can be sent to District chapter headquarters on Jackson place.

A call for six volunteers has been received by the District headquarters from Miss Dinwiddle of the National Red Cross to assist in keeping large maps of Red Cross to assist in keeping large maps of Red Cross work in the U. S. A. up-to-date. Two days of every month are asked of these volunteers. Miss Mabel Wilcox, director of the volunteer service department, also is asking volunteers to assist in some special work and requests applications to be made to her at national headquarters of the American Red Cross.

relieve that in this city that is one of the outstanding occupations for which the schools can prepare the pupils, because there is no manufacturing and there is very little mechanical occupation."

Dr. Ballou also said that practical printers in Washington have assured him that the course being given in these schools is an excellent one and that they desire to see this work enlarged. In the Smallwood-Bowen School the pupils taking this course are twelve, thirteen and fourteen years of age. It is "elective," in that

UNIFORMS COST LESS.

Prices Are Reduced for High School Cadets.

Washington high school cadets have eccived gentle reminder that normalcy is returning to its old haunts, with the announcement by school authorities of an appreciable reduction in prices of cadet uniforms for next

Uniforms which during the past year cost the embryo generals \$20.25 will set them back only \$18.25 next year. Officers' outfits will be cut from

dorse Woman Club's Idea.

The Americanization School, the Society of the Daughters of the American Revolution and the naturalization bureau are co-operating in the idea initiated by the Federated Women's Clubs in making the Fourth of July a "Better Citisenship day" by giving a reception to newly naturalized citizens at 3 o'clock Tuesday evening in the auditorium of the Columbia High School building, 7th and O streets northwest. All men and women naturalized in, the District during the past year have been invited to attend. Special distinction will be given the class which will appear before Judge Hoehling Wednesday morning for their final citizenship papers.

Representative M Clyde Kelly of Pennsylvania, Chief Justice Walter I. McCoy of the Supreme Court of the Americanization work will welcome the new citizens. Representative Kelly will give the principal address. New citizens will also assist in the program, among whom will be Alfred Chichiricco, formerly of Italy, who will speak of "Protection and Freedom Under the United States Constitution," and Peter Chipouras, formerly of Greece, whose subject will present flags and arreinanization bureau will present certificates to the class. Miss Garda Larson, N. Campognoli and Alfred Chichiricco are the student committee in charge. Miss Maude E. Michon, principal of the Americanization bureau will present certificates to the class. Miss Garda Larson, N. Campognoli and Alfred Chichiricco are the student committee in charge. Washing the first principal of the Americanization of the Americanization bureau will present certificates to the class. Miss Garda Larson, N. Campognoli and Alfred Chichiricco are the student committee in charge. Will preside.

**Rear Admiral Robison Notes** Freedom of U. S. in Communication Control.

practically complete freedom munication between this country and others, and, furthermore, American WDM—Church of the Government (360 Meters). exercising an almost predominant influence in world radio communication. This was the statement of Rear Admiral J. K. Robison, chief of the bureau of engineering in the Navy, in a recent interview.

"This has been brought about to no small extent by the statement of the bureau of engineering in the communication of the bureau of engineering in the statement of the bureau of engineering in the large product of the bureau of the large product o

"This has been brought about to no small extent by the co-operation and assistance of the Navy Depart-

instaker.

In a small extent by the co-operation and assistance of the Navy Department," he declared, pointing out that ever since 1502 the Navy has used radio as a medium of rapid communication, and that since 1904, when President Roosevelt put all shore stations, and that since 1904, when President Roosevelt put all shore stations, except land military stations in the surface or, in other words, by measuring the time which elapses between the sounding of a signal and the response of its echo on the hdyrophone.

The rate of speed of travel of sound through sea water being known, the depth can be readily computed.

A squadron of destroyers is now en route from the Atlantic to join the Aslatic fieet, sailing by way of Gibraltar and the Suez canal, and the fearship is expulsively later.

A squadron of destroyers is now en route from the Atlantic to join the Asiatic fleet, sailing by way of Gibraltar and the Suez canal, and the flagship is equipped with the latest type of hydrophone and sound trans-

That this course has proved popu-

ar throughout the school system is

shown by the following attendance statistics: Smallwood-Bowen School,

BY COMMANDER STANFORD C. HOOPER, UNITED STATES NAVY,
Head of the Radio Division in the Bureau of Engineering,
Navy Department,

(Cogyright, 1985, by Shasferd C. Kooper. All rights reserved.)

Developed by the Navy during the war to detect and locate enemy submarines which cruised under water to prey on allied shipping, the hydroshone will now be put to practical uses during peace times to explore the section of sound strong the section of sound strong peace times to explore the section of sound strong peace times to explore the section of sound strong peace times to explore the section of sound strong peace times to explore the section of sound strong peace times to explore the section of sound strong peace times to explore the section of sound wave, the section of sound strong peace times to explore the section of sound wave, the section of sound strong peace times to explore the section of sound wave, the section of sound sound strong the section of sound wave, the section

RADIO EQUIPMENT GIFT

D. C. SCHOOL PRINT SHOP

the pupils may choose whether they care to learn printing, but, having care to learn printing, but, having ments in facilities for secret companied the range of the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied the range of the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing, but, having ments in facilities for secret companied to the pupils may choose whether they care to learn printing. ments in facilities for secret communication, increased the range of aircraft radio sets from fifty to 500 miles and reduced the weight materially, making long-range spotting possible; developed a pilot cable for any and aircraft landing fields, increasing the safety of both water; and aerial navigation; made possible the sending and receipt of five simultaneous messeges; increased long-distance speed from ten to sixty words per minute, and made possible automatic transmission and reception. Other work includes the development of the kite aerial for transmitting from a seaplane on the water; radio compass improvements, making radio applicable as a direction indicator and position finder; the elimination of static and "mush"; an advance in the radio-controlled torpedo and vessels and the introduction of the arc transmitter and uniwave system of signaling.

Under ship radio equipment, Admiral Robison said: "There remains to be accomplished for the next fiscal

BY RADIO TODAY

Complete Programs of Radio Broadcasting Stations.

Register of the First Methodist Episabor of the First Methodist Episabor of Church of Medford. Specially 4 service; sermon, "The Secret National Greatness"; church music NAA—Naval Radio Station, Radio, Vs.

10 a.m.—Weather forecast for New England, New York, Pennsylvania, New Jersey, Maryland, the District of Columbia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, West Virginia and Ohio, on 2,950 meters.

10:30 a.m.—Meteorological report on 5,950 meters.

Noon—Time signal; weather report; ship orders on 2,650 meters.

10:30 p.m.—Naval press news on 2,650 meters.

10:30 p.m.—Saval press news on 2,650 mete NAA-Naval Radio Station, Badio, Va

WJZ-Westinghouse, Newark, N. J. (360 Meters - Eastern Daylight-Saving Time-Deduct One Hour). 3 p.m.—Radio chapel services by Rev. George Sayre Miller of the Washington Street Baptist Church of Washington Street Baptist Church of Orange, N. J.
6:30 p.m.—Readings and records from the "Bubble Books That Sing," by Ralph Mayhew.
6:45 p.m.—Sandman stories, told by Kasper Seidel.

Kasper Seidel.
7 p.m.—Adventure stories for boys and girls.
7:30 p.m.—"Astronomy and the Amateur Astronomer," by Davis B. Pickering of East Orange, N. J.
8 p.m.—Music Temple of America will present "The Man From Paris," comic opera in one act.
9 p.m.—Concert by Leatla Joel-Hulse, contraito.
9:15 p.m.—Musical recital by Lisbet Hoffman, concert pianist.

KDKA—Westinghouse, East Pitts-burgh (380 Meters—Eastern Stand-ard Time).

and Time).

10 a.m.—Services of the Calvary Episcopal Church of Pittsburgh, Rev. E. J. Van Etten, pastor.

1:45 p.m.—Children's Bible story, "The Story of a Jawbone."

2 p.m.—Radio chapel services, conducted by Rev. Frank Sliveus, pastor of the First Presbyterian Church of Duqueste. Pa Or the Flist Tropy of the Emory Methodist Episcopal Church of Pittsburgh, Rev. W. Wofford T. Duncan, pastor.

KYW-Westinghouse, Chicago (360 meters-Central Daylight-Saving Time-Same as Eastern Standard Time).

2:30 p.m.—Radio chapel services, conducted by Rev Gilbert Wilson, pastor of the First Congregational Church. Sermon on "National As-

WWJ-Detroit News (360 Meters-Eastern Standard Time). 11 a.m.—Services from St. Poul's Episcopal Cathedral, Dean Warren L. Rogers, officiating.
4 to 6 p.m.—Concert by the Detroit
News Orchestra.

WGI-Amrad, Medford Hillside, Mass.

year the installation of new care on ment on vessels in active service on which there has been no opportunity to do work. The use of vacuumrines will be increased about five times, or from seventy-five to four hundred miles. Submarines are being equipped with aerials and receivers of such type that receiving under water will be practicable and transmitting without coming fully to the surface will be possible.

"One effort in the past two years has been to develop and test a standard type of listening device." United States, furnishing as well a medium of rapid communication with our fleets of war and merchant marine.

Value of Navy Radio.

Replying to a question as to what the Navy had done specifically to develop the art of radio telegraphy and telephony. Admiral Robison stated that a few of them included improvements in facilities for secret comments in facilities for secret comments in facilities for secret comments.

# Bargain 6th Floor Last Minute Needs for Vacation-priced so low that the amount will not be missed from your vacation funds. Imported Linen Dresses

TWO-CIRCUIT RADIO SET

AT SMALL COST POSSIBLE

LANSBURGH & BROTHER

Bureau of Standards Describes \$15

Outfit, Which May Be Constructed by Amateurs.

Amateurs may now construct a satisfactory two-circuit receiving set, with variable coupler, at home on the

Styles usually found at a much higher price. Full assortment of colors, charmingly fashioned for women and misses from 16 to 46. The boardwalks are full of them. You'll want one, too-



and illustrated in the bureau of standards circular 120, which can be secured from the superintendent of public documents for 5 cents. The new circular describes the con-

Plaited models, straight-line and surplice effects, elaborately embroidered styles and others equally attractive. Don't miss the opportunity-They're wonderful.

### White Tub Skirts **Gabardine Surf Satin**

A wonderful quality that will wash beautifully, well made in several good styles. Take one or two with you over the Fourth.

Regular Sizes—Extra Sizes

Precise workmanship that will be found only in the higher-priced skirts. Pearl button trimmed; deep hem.

Regular Sizes—Extra Sizes

Women's and Misses' Bathing Suits, 69c

LANSBURGH & BROTHER

Snappy Styles in

White Footwear

for the Fourth

At \$3.75

Sport Oxfords and Dress Pumps

The Oxford a snappy sports style in white with black or tan trim, comfortable heel and flexible sole. The Pumps of white Beachtex with turn soles, the popular one-strap style.



At \$5.00

Strap Pumps and Oxfords White Cloth Pumps with

Cuban or Spanish heels - a dressy model with lots of class. White Reignskin Oxfords with white ivory-finished soles and heels or with covered heel.



At \$7.50

Sandals, Strap Pumps, Oxfords

White Buckskin Sandals and Oxfords, Black or White Strap Pumps, All-white Strap Pumps and Oxfords, also Sport Oxfords. A collection of smart shoes to meet every vacation requirement-sports or dress.

Second Ploor-Langburgh & Brother





## Take Advantage of Special Values in Our July Sale

Open that Extended Account Now! Share in the unusual values this big July Sale offers. Furniture kinds and descriptions, to fit each room, everything from cellar to garret is included. And just imagine the opportunity is now yours to buy good furniture at a decided sayings—buy it and pay the easy way,



ments as determined by yourself. This method is not extravagance as a few still think—it is merely a good way of giving your family the comforts of life, in the meantime paying for the furnishings as little or as much as you can comfortably afford. We are here to give you the very utmost in assistance—why not come in and let-as explain our 'Extended Account'

